

10/534742

JC06 Rec'd PCT 0 12 MAY 2005

SEQUENCE LISTING

<110> Corrado FOGHER

<120> Food flours with specific technological characteristics and low allergenicity

<130> 4161-12 / BW330R

<140> US

<141> 2005-05-12

<150> PCT/IB2003/005092

<151> 2003-11-12

<150> IT BO2002A000714

<151> 2002-11-13

<160> 44

<170> MS Word

<210> 1

<211> 830

<212> PRT

<213> Wheat

<223> Ax1

<400> 1

Met Thr Lys Arg Leu Val Leu Phe Ala Ala Val Val Val Ala Leu Val
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Ala Leu Thr Ala Ala Glu Gly Glu Ala Ser Gly Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu His Ser Leu Lys Ala Cys Arg Gln Val Val Asp
35 40 45

Gln Gln Leu Arg Asp Val Ser Pro Glu Cys Gln Pro Val Gly Gly
50 55 60

Pro Val Ala Arg Gln Tyr Glu Gln Gln Val Val Val Pro Pro Lys Gly
65 70 75 80

Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Pro Gln Gln Leu Gln Gln
85 90 95

Ser Ile Leu Trp Gly Ile Pro Ala Leu Leu Arg Arg Tyr Tyr Leu Ser
100 105 110

Val Thr Ser Pro Gln Gln Val Ser Tyr Tyr Pro Gly Gln Ala Ser Ser
115 120 125

Gln Arg Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Glu Tyr
130 135 140

Tyr Leu Thr Ser Pro Gln Gln Ser Gly Gln Trp Gln Gln Pro Gly Gln
145 150 155 160

Gly Gln Ala Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Glu
165 170 175

Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Trp Gln Pro Glu Gln Leu Gln
180 185 190

Gln Pro Thr Gln Gly Gln Gln Arg Gln Gln Pro Gly Gln Gly Gln Gln
195 200 205

Leu Arg Gln Gly Gln Gln Gly Gln Gln Ser Gly Gln Gly Gln Pro Arg
210 215 220

Tyr Tyr Pro Thr Ser Ser Gln Gln Pro Gly Gln Leu Gln Gln Leu Ala
225 230 235 240

Gln Gly Gln Gln Gly Gln Gln Pro Glu Arg Gly Gln Gln Gly Gln Gln
245 250 255

Ser Gly Gln Gly Gln Gln Leu Gly Gln Gly Gln Gln Gly Gln Gln Pro
260 265 270

Gly Gln Lys Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Ile
275 280 285

Ser Pro Gln Gln Leu Gly Gln Gly Gln Gln Ser Gly Gln Gly Gln Leu
290 295 300

Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Ser Gly
305 310 315 320

Tyr Tyr Pro Thr Ser Ala Gln Gln Pro Gly Gln Leu Gln Gln Ser Thr
325 330 335

Gln Glu Gln Gln Leu Gly Gln Glu Gln Gln Asp Gln Gln Ser Gly Gln
340 345 350

Gly Arg Gln Gly Gln Gln Ser Gly Gln Arg Gln Gln Asp Gln Gln Ser
355 360 365

Gly Gln Gly Gln Gln Pro Gly Gln Arg Gln Pro Gly Tyr Tyr Ser Thr
370 375 380

Ser Pro Gln Gln Leu Gly Gln Gly Gln Pro Arg Tyr Tyr Pro Thr Ser
385 390 395 400

Pro Gln Gln Pro Gly Gln Glu Gln Gln Pro Arg Gln Leu Gln Gln Pro
405 410 415

Glu Gln Gly Gln Gln Gly Gln Gln Pro Glu Gln Gly Gln Gln Gly Gln
420 425 430

Gln Pro Gly Gln Gly Glu Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln
435 440 445

Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro
450 455 460

Gln Gln Ser Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln
465 470 475 480

Gln Ser Gly Gln Leu Gln Gln Pro Ala Gln Gly Gln Gln Pro Gly Gln
485 490 495

Glu Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro
500 505 510

Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr
515 520 525

Ser Pro Gln Gln Ser Gly Gln Glu Gln Gln Leu Glu Gln Trp Gln Gln
530 535 540

Ser Gly Gln Gly Gln Pro Gly His Tyr Pro Thr Ser Pro Leu Gln Pro
545 550 555 560

Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ile Gly
565 570 575

Gln Gly Gln Gln Pro Gly Gln Leu Gln Gln Pro Thr Gln Gly Gln Gln
580 585 590

Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly
595 600 605

Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Gln
610 615 620

Pro Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Ser Gly Gln Gly Gln Gln
625 630 635 640

Pro Gly Gln Trp Gln Gln Pro Gly Gln Gly Leu Pro Gly Tyr Tyr Pro
645 650 655

Thr Ser Ser Leu Gln Pro Glu Gln Gly Gln Gln Gly Tyr Tyr Pro Thr
660 665 670

Ser Gln Gln Gln Pro Gly Gln Gly Pro Gln Pro Gly Gln Trp Gln Gln
675 680 685

Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser
690 695 700

Gly Gln Gly Gln Gln Pro Gly Gln Trp Leu Gln Pro Gly Gln Trp Leu
705 710 715 720

Gln Ser Gly Tyr Tyr Leu Thr Ser Pro Gln Gln Leu Gly Gln Gln
725 730 735

Gln Pro Arg Gln Trp Leu Gln Pro Arg Gln Gly Gln Gln Gly Tyr Tyr
740 745 750

Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Gln Leu Gly Gln Gly
755 760 765

Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln
770 775 780

Gln Gly Tyr Asp Ser Pro Tyr His Val Ser Ala Glu His Gln Ala Ala
785 790 795 800

Ser Leu Lys Val Ala Lys Ala Gln Gln Leu Ala Ala Gln Leu Pro Ala
805 810 815

Met Cys Arg Leu Glu Gly Asp Ala Leu Leu Ala Ser Gln
820 825 830

<210> 2

<211> 815

<212> PRT

<213> Wheat

<223> Ax2

<400> 2

Met Thr Lys Arg Leu Val Leu Phe Ala Ala Val Val Val Ala Leu Val
1 5 10 15

Ala Leu Thr Ala Ala Glu Gly Glu Ala Ser Gly Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu His Ser Leu Lys Ala Cys Arg Gln Val Val Asp
35 40 45

Gln Gln Leu Arg Asp Val Ser Pro Glu Cys Gln Pro Val Gly Gly
50 55 60

Pro Val Ala Arg Gln Tyr Glu Gln Gln Val Val Val Pro Pro Lys Gly
65 70 75 80

Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Pro Gln Gln Leu Gln Gln
85 90 95

Ser Ile Leu Trp Gly Ile Pro Ala Leu Leu Arg Arg Tyr Tyr Leu Ser
100 105 110

Val Thr Ser Pro Gln Gln Val Ser Tyr Tyr Pro Gly Gln Ala Ser Ser
115 120 125

Gln Arg Pro Gly Gln Gly Gln Gln Glu Tyr Tyr Leu Thr Ser Pro Gln
130 135 140

Gln Ser Gly Gln Trp Gln Gln Pro Gly Gln Gly Gln Ser Gly Tyr Tyr
145 150 155 160

Pro Thr Ser Pro Gln Gln Ser Gly Gln Lys Gln Pro Gly Tyr Tyr Pro

165

170

175

Thr Ser Pro Trp Gln Pro Glu Gln Leu Gln Gln Pro Thr Gln Gly Gln
180 185 190

Gln Arg Gln Gln Pro Gly Gln Gly Gln Gln Leu Arg Gln Gly Gln Gln
195 200 205

Gly Gln Gln Ser Gly Gln Gly Gln Pro Arg Tyr Tyr Pro Thr Ser Ser
210 215 220

Gln Gln Pro Gly Gln Leu Gln Gln Ala Gln Gly Gln Gln Gly Gln
225 230 235 240

Gln Pro Glu Arg Gly Gln Gln Gly Gln Gln Ser Gly Gln Gly Gln Gln
245 250 255

Leu Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Lys Gln Gln Ser
260 265 270

Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Ile Ser Pro Gln Gln Leu Gly
275 280 285

Gln Gly Gln Gln Ser Gly Gln Gly Gln Leu Gly Tyr Tyr Pro Thr Ser
290 295 300

Pro Gln Gln Ser Gly Gln Gly Gln Ser Gly Tyr Tyr Pro Thr Ser Ala
305 310 315 320

Gln Gln Pro Gly Gln Leu Gln Gln Ser Thr Gln Glu Gln Gln Leu Gly
325 330 335

Gln Glu Gln Gln Asp Gln Gln Ser Gly Gln Gly Arg Gln Gly Gln Gln
340 345 350

Ser Gly Gln Arg Gln Gln Asp Gln Gln Ser Gly Gln Gly Gln Gln Pro
355 360 365

Gly Gln Arg Gln Pro Gly Tyr Tyr Ser Thr Ser Pro Gln Gln Leu Gly
370 375 380

Gln Gly Gln Pro Arg Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln
385 390 395 400

Glu Gln Gln Pro Arg Gln Leu Gln Gln Pro Glu Gln Gly Gln Gln Gly
405 410 415

Gln Gln Pro Glu Gln Gly Gln Gln Gly Gln Gln Arg Gln Gly Glu
420 425 430

Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln
435 440 445

Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
450 455 460

Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Leu Gln
465 470 475 480

Gln Pro Ala Gln Gly Gln Gln Pro Gly Gln Glu Gln Gln Gly Gln Gln
485 490 495

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro
500 505 510

Thr Ser Pro Gln Gln Ser Gly Gln Glu Gln Gln Leu Glu Gln Trp Gln
515 520 525

Gln Ser Gly Gln Gly Gln Pro Gly His Tyr Pro Thr Ser Pro Leu Gln
530 535 540

Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ile
545 550 555 560

Gly Gln Gly Gln Gln Pro Gly Gln Leu Gln Gln Pro Thr Gln Gly Gln
565 570 575

Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gln Gln Pro Gly Glu
580 585 590

Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly
595 600 605

Gln Pro Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Ser Gly Gln Gly Gln
610 615 620

Gln Pro Gly Gln Trp Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr
625 630 635 640

Pro Thr Ser Ser Leu Gln Pro Glu Gln Gly Gln Gln Gly Tyr Tyr Pro
645 650 655

Thr Ser Gln Gln Gln Pro Gly Gln Gly Pro Gln Pro Gly Gln Trp Gln
660 665 670

Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln
675 680 685

Ser Gly Gln Gly Gln Gln Pro Gly Gln Trp Leu Gln Pro Gly Gln Trp
690 695 700

Leu Gln Ser Gly Tyr Tyr Leu Thr Ser Pro Gln Gln Leu Gly Gln Gly
705 710 715 720

Gln Gln Pro Arg Gln Trp Leu Gln Pro Arg Gln Gly Gln Gln Gly Tyr
725 730 735

Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Gln Leu Gly Gln
740 745 750

Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
755 760 765

Gln Gln Gly Tyr Asp Ser Pro Tyr His Val Ser Ala Glu His Gln Ala
770 775 780

Ala Ser Leu Lys Val Ala Lys Ala Gln Gln Leu Ala Ala Gln Leu Pro
785 790 795 800

Ala Met Cys Arg Leu Glu Gly Gly Asp Ala Leu Leu Ala Ser Gln
805 810 815

<210> 3
<211> 839
<212> PRT
<213> Wheat

<223> Dx5

<400> 3

Met Ala Lys Arg Leu Val Leu Phe Val Ala Val Val Val Ala Leu Val
1 5 10 15

Ala Leu Thr Val Ala Glu Gly Glu Ala Ser Glu Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Leu Gln Glu Arg Glu Leu Lys Ala Cys Gln Gln
35 40 45

Val Met Asp Gln Gln Leu Arg Asp Ile Ser Pro Glu Cys His Pro Val
50 55 60

Val Val Ser Pro Val Ala Gly Gln Tyr Glu Gln Gln Ile Val Val Pro
65 70 75 80

Pro Lys Gly Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Pro Gln Gln
85 90 95

Leu Gln Gln Arg Ile Phe Trp Gly Ile Pro Ala Leu Leu Lys Arg Tyr
100 105 110

Tyr Pro Ser Val Thr Cys Pro Gln Gln Val Ser Tyr Tyr Pro Gly Gln
115 120 125

Ala Ser Pro Gln Arg Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln
130 135 140

Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Trp Gln Gln
145 150 155 160

Pro Glu Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro
165 170 175

Gly Gln Leu Gln Gln Pro Ala Gln Gly Gln Gln Pro Gly Gln Gly Gln
180 185 190

Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser
195 200 205

Ser Gln Leu Gln Pro Gly Gln Leu Gln Gln Pro Ala Gln Gly Gln Gln
210 215 220

Gly Gln Gln Pro Gly Gln Ala Gln Gln Gly Gln Gln Pro Gly Gln Gly
225 230 235 240

Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln
245 250 255

Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Leu Gly Gln Gly Gln Gln
260 265 270

Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Ser Gly Gln Gly Gln Pro Gly
275 280 285

Tyr Tyr Pro Thr Ser Leu Gln Gln Leu Gly Gln Gly Gln Ser Gly Tyr
290 295 300

Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln
305 310 315 320

Leu Gln Gln Pro Ala Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly
325 330 335

Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln
340 345 350

Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln
355 360 365

Ser Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Ser Gln Gln Pro
370 375 380

Thr Gln Ser Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Val Gly
385 390 395 400

Gln Gly Gln Gln Ala Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln
405 410 415

Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
420 425 430

Gln Pro Gly Tyr Tyr Leu Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln
435 440 445

Gln Pro Gly Gln Leu Gln Gln Ser Ala Gln Gly Gln Lys Gly Gln Gln
450 455 460

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro
465 470 475 480

Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr
485 490 495

Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Gln Pro Gly Gln
500 505 510

Trp Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro
515 520 525

Leu Gln Pro Gly Gln Gly Gln Pro Gly Tyr Asp Pro Thr Ser Pro Gln
530 535 540

Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Leu Gln Gln Pro Ala Gln
545 550 555 560

Gly Gln Gln Gly Gln Gln Leu Ala Gln Gly Gln Gln Gly Gln Pro
565 570 575

Ala Gln Val Gln Gln Gly Gln Gln Pro Ala Gln Gly Gln Gln Gly Gln
580 585 590

Gln Leu Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln
595 600 605

Gly Gln Gln Pro Ala Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly
610 615 620

Gln His Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro Gly
625 630 635 640

Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Trp Tyr Tyr Pro Thr Ser
645 650 655

Pro Gln Glu Ser Gly Gln Gly Gln Gln Pro Gly Gln Trp Gln Gln Pro
660 665 670

Gly Gln Gln Pro Gly Tyr Tyr Leu Thr Phe Ser Val Ala Ala Arg
675 680 685

Thr Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln
690 695 700

Gly Gln Gln Pro Gly Gln Trp Gln Gln Ser Gly Gln Gly Gln His Trp
705 710 715 720

Tyr Tyr Pro Thr Ser Pro Lys Leu Ser Gly Gln Gly Gln Arg Pro Gly
725 730 735

Gln Trp Leu Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser
740 745 750

Pro Gln Gln Pro Pro Gln Gly Gln Gln Leu Gly Gln Trp Leu Gln Pro
755 760 765

Gly Gln Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Thr Gly
770 775 780

Gln Gly Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Ser Ser Tyr
785 790 795 800

His Val Ser Val Glu His Gln Ala Ala Ser Leu Lys Val Ala Lys Ala
805 810 815

Gln Gln Leu Ala Ala Gln Leu Pro Ala Met Cys Arg Leu Glu Gly Gly
820 825 830

Asp Ala Leu Ser Ala Ser Gln
835

<210> 4
<211> 838
<212> PRT
<213> Wheat

<223> HMW2

<400> 4

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Met Ala Lys Arg Leu Val Leu Phe Val Ala Val Val Val Ala Leu Val
1           5           10          15

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Ala Leu Thr Val Ala Glu Gly Glu Ala Ser Glu Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Leu Gln Glu Arg Glu Leu Lys Ala Cys Gln Gln
 35 40 45

Val Met Asp Gln Gln Leu Arg Asp Ile Ser Pro Glu Cys His Pro Val
50 55 60

Val	Val	Ser	Pro	Val	Ala	Gly	Gln	Tyr	Glu	Gln	Gln	Ile	Val	Val	Pro
65					70					75					80

Lys Gly Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Pro Gln Gln Leu
85 90 95

Gln Gln Arg Ile Phe Trp Gly Ile Pro Ala Leu Leu Lys Arg Tyr Tyr
100 105 110

Pro Ser Val Thr Ser Pro Gln Gln Val Ser Tyr Tyr Pro Gly Gln Ala
115 120 125

Ser Pro Gln Arg Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln
 130 135 140

Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro
145 150 155 160

Gly Gln Trp Gln Gln Pro Glu Gln Gly Gln Pro Gly Tyr Tyr Pro Thr
165 170 175

Ser Pro Gln Gln Pro Gly Gln Leu Gln Gln Pro Ala Gln Gly Gln Gln
180 185 190

Pro Gly Gln Gly Gln Gln Gly Arg Gln Pro Gly Gln Gly Gln Pro Gly
195 200 205

Tyr Tyr Pro Thr Ser Ser Gln Leu Gln Pro Gly Gln Leu Gln Gln Pro
210 215 220

Ala Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gln Gly Gln
225 230 235 240

Gln Pro Gly Gln Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln
245 250 255

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gln Gln Leu
260 265 270

Gly Gln Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Ser Gly
275 280 285

Gln Gln Pro Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Leu Gly Gln
290 295 300

Gly Gln Ser Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Gly
305 310 315 320

Gln Gln Pro Gly Gln Leu Gln Gln Pro Ala Gln Gly Gln Gln Pro Glu
325 330 335

Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gln Gln
340 345 350

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro
355 360 365

Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr
370 375 380

Ser Ser Gln Gln Pro Thr Gln Ser Gln Gln Pro Gly Gln Gly Gln Gln
385 390 395 400

Gly Gln Gln Val Gly Gln Gly Gln Ala Gln Gln Pro Gly Gln Gly
405 410 415

Gln Gln Pro Gly Gln Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Leu
420 425 430

Gln Ser Gly Gln Gly Gln Pro Gly Tyr Tyr Leu Thr Ser Pro Gln Gln
435 440 445

Ser Gly Gln Gly Gln Gln Pro Gly Gln Leu Gln Gln Ser Ala Gln Gly
450 455 460

Gln Lys Gly Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln
465 470 475 480

Gln Gly Gln Gln Pro Gly Gln Gln Gly Gln Gln Gln Pro Gly Gln
485 490 495

Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
500 505 510

Gln Gln Pro Gly Gln Trp Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr
515 520 525

Tyr Pro Thr Ser Pro Leu Gln Pro Gly Gln Gly Gln Pro Gly Tyr Asp
530 535 540

Pro Thr Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Leu
545 550 555 560

Gln Gln Pro Ala Gln Gly Gln Gln Gly Gln Gln Leu Ala Gln Gly Gln
565 570 575

Gln Gly Gln Gln Pro Ala Gln Val Gln Gln Gly Gln Gln Pro Ala Gln
580 585 590

Gly Gln Gln Gly Gln Gln Leu Gly Gln Gly Gln Gln Gly Gln Gln Pro
595 600 605

Gly Gln Gly Gln Gln Pro Ala Gln Gly Gln Gln Gly Gln Gln Pro Gly
610 615 620

Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gln Gln Gln Pro Gly Gln
625 630 635 640

Gly Gln Pro Trp Tyr Tyr Pro Thr Ser Pro Gln Glu Ser Gly Gln Gly
645 650 655

Gln Gln Pro Gly Gln Trp Gln Gln Pro Gly Gln Trp Gln Gln Pro Gly
660 665 670

Gln Gly Gln Pro Gly Tyr Tyr Leu Thr Ser Pro Leu Gln Leu Gly Gln
675 680 685

Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly
690 695 700

Gln Gln Pro Gly Gln Trp Gln Gln Ser Gly Gln Gly Gln His Gly Tyr
705 710 715 720

Tyr Pro Thr Ser Pro Gln Leu Ser Gly Gln Gly Gln Arg Pro Gly Gln
725 730 735

Trp Leu Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro
740 745 750

Gln Gln Ser Gly Gln Gly Gln Gln Leu Gly Gln Trp Leu Gln Pro Gly
755 760 765

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Thr Gly Gln
770 775 780

Gly Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Ser Ser Tyr His
785 790 795 800

Val Ser Val Glu His Gln Ala Ala Ser Leu Lys Val Ala Lys Ala Gln
805 810 815

Gln Leu Ala Ala Gln Leu Pro Ala Met Cys Arg Leu Glu Gly Gly Asp
820 825 830

Ala Leu Ser Ala Ser Gln
835

<210> 5
<211> 789
<212> PRT
<213> Wheat

<223> Bx7

<400> 5

Met Ala Lys Arg Leu Val Leu Phe Ala Ala Val Val Val Ala Leu Val
1 5 10 15

Ala Leu Thr Ala Ala Glu Gly Glu Ala Ser Gly Gln Leu Gln Cys Glu
20 25 30

His Glu Leu Glu Ala Cys Gln Gln Val Val Asp Gln Gln Leu Arg Asp
35 40 45

Val Ser Pro Gly Cys Arg Pro Ile Thr Val Ser Pro Gly Thr Arg Gln
50 55 60

Tyr Glu Gln Gln Pro Val Val Pro Ser Lys Ala Gly Ser Phe Tyr Pro
65 70 75 80

Ser Glu Thr Thr Pro Ser Gln Gln Leu Gln Gln Met Ile Phe Trp Gly
85 90 95

Ile Pro Ala Leu Leu Arg Arg Tyr Tyr Pro Ser Val Thr Ser Ser Gln
100 105 110

Gln Gly Ser Tyr Tyr Pro Gly Gln Ala Ser Pro Gln Gln Ser Gly Gln
115 120 125

Gly Gln Gln Pro Gly Gln Glu Gln Gln Pro Gly Gln Gly Gln Gln Asp
130 135 140

Gln Gln Pro Gly Gln Arg Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln
145 150 155 160

Gln Pro Gly Gln Gly Gln Gln Leu Gly Gln Gly Gln Pro Gly Tyr Tyr
165 170 175

Pro Thr Ser Gln Gln Pro Gly Gln Lys Gln Gln Ala Gly Gln Gly Gln
180 185 190

Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln
195 200 205

Ser Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro
210 215 220

Thr Ser Pro Gln Gln Ser Gly Gln Trp Gln Gln Pro Gly Gln Gly Gln
225 230 235 240

Gln Pro Gly Gln Gly Gln Gln Ser Gly Gln Gly Gln Gln Gln Gln
245 250 255

Pro Gly Gln Gly Gln Arg Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro
260 265 270

Ile Ser Pro Gln Gln Pro Gly Gln Gly Gln Ser Gly Gln Gly Gln
275 280 285

Pro Gly Tyr Tyr Pro Thr Ser Leu Arg Gln Pro Gly Gln Trp Gln Gln
290 295 300

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Gln Gln Pro
305 310 315 320

Gly Gln Gly Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr
325 330 335

Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Leu Gly Gln Gly Gln Pro
340 345 350

Gly Tyr Tyr Pro Thr Ser Gln Gln Ser Glu Gln Gly Gln Gln Pro Gly
355 360 365

Gln Gly Lys Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser
370 375 380

Pro Gln Gln Ser Gly Gln Gly Gln Gln Leu Gly Gln Gly Gln Pro Gly
385 390 395 400

Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln Gln Ser Gly
405 410 415

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln
420 425 430

Gly Gln Gln Pro Gly Gln Gly Gln Ser Gly Tyr Phe Pro Thr Ser Arg
435 440 445

Gln Gln Ser Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Ser Gly
450 455 460

Gln Gly Gln Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Ala Tyr Tyr
465 470 475 480

Pro Thr Ser Ser Gln Gln Ser Arg Gln Arg Gln Gln Ala Gly Gln Trp
485 490 495

Gln Arg Pro Gly Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro Gln
500 505 510

Gln Pro Gly Gln Glu Gln Gln Ser Gly Gln Ala Gln Gln Ser Gly Gln
515 520 525

Trp Gln Leu Val Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Leu
530 535 540

Gln Gln Pro Ala Gln Gly Gln Gln Pro Ala Gln Gly Gln Gln Ser Ala
545 550 555 560

Gln Glu Gln Gln Pro Gly Gln Ala Gln Gln Ser Gly Gln Trp Gln Leu
565 570 575

Val Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Leu Gln Gln Pro
580 585 590

Ala Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly
595 600 605

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln
610 615 620

Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
625 630 635 640

Gln Gln Pro Gly Gln Gly Gln Gln Pro Arg Gln Gly Gln Gln Gly Tyr
645 650 655

Tyr Pro Ile Ser Pro Gln Gln Ser Gly Gln Gly Gln Gln Pro Gly Gln
660 665 670

Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly
675 680 685

Gln Gln Pro Gly His Glu Gln Gln Pro Gly Gln Trp Leu Gln Pro Gly
690 695 700

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Ser Gln Gln Ser Gly Gln
705 710 715 720

Gly His Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu
725 730 735

Trp Gln Pro Gly Gln Gly Gln Gln Gly Tyr Ala Ser Pro Tyr His Val
740 745 750

Ser Ala Glu Tyr Gln Ala Ala Arg Leu Lys Val Ala Lys Ala Gln Gln
755 760 765

Leu Ala Ala Gln Leu Pro Ala Met Cys Arg Leu Glu Gly Ser Asp Ala
770 775 780

Leu Ser Thr Arg Gln
785

<210> 6
<211> 660
<212> PRT
<213> Wheat

<223> Dy12

<400> 6

Met Ala Lys Arg Leu Val Leu Phe Ala Ala Val Val Ile Ala Leu Val
1 5 10 15

Ala Leu Thr Thr Ala Glu Gly Glu Ala Ser Arg Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Ser Ser Leu Glu Ala Cys Arg Gln Val Val Asp
35 40 45

Gln Gln Leu Ala Gly Arg Leu Pro Trp Ser Thr Gly Leu Gln Met Arg
50 55 60

Cys Cys Gln Gln Leu Arg Asp Val Ser Ala Lys Cys Arg Ser Val Ala
65 70 75 80

Val Ser Gln Val Ala Arg Gln Tyr Glu Gln Thr Val Val Pro Pro Lys
85 90 95

Gly Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Leu Gln Gln Leu Gln
100 105 110

Gln Gly Ile Phe Trp Gly Thr Ser Ser Gln Thr Val Gln Gly Tyr Tyr
115 120 125

Pro Ser Val Thr Ser Pro Arg Gln Gly Ser Tyr Tyr Pro Gly Gln Ala
130 135 140

Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Lys Trp Gln Glu
145 150 155 160

Pro Gly Gln Gly Gln Gln Trp Tyr Tyr Pro Thr Ser Leu Gln Gln Pro
165 170 175

Gly Gln Gly Gln Gln Ile Gly Lys Gly Lys Gln Gly Tyr Tyr Pro Thr
180 185 190

Ser Leu Gln Gln Pro Gly Gln Gly Gln Ile Gly Gln Gly Gln Gln
195 200 205

Gly Tyr Tyr Pro Thr Ser Pro Gln His Thr Gly Gln Arg Gln Gln Pro
210 215 220

Val Gln Gly Gln Gln Ile Gly Gln Gly Gln Gln Pro Glu Gln Gly Gln
225 230 235 240

Gln Pro Gly Gln Trp Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln
245 250 255

Leu Gly Gln Gly Gln Gln Pro Gly Gln Trp Gln Gln Ser Gly Gln Gly
260 265 270

Gln Gln Gly His Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln
275 280 285

Gln Gly His Tyr Leu Ala Ser Gln Gln Gln Pro Ala Gln Gly Gln Gln
290 295 300

Gly His Tyr Pro Ala Ser Gln Gln Gln Pro Gly Gln Gly Gln Gln Gly
305 310 315 320

His Tyr Pro Ala Ser Gln Gln Gln Pro Gly Gln Gly Gln Gln Gly His
325 330 335

Tyr Pro Ala Ser Gln Gln Glu Pro Gly Gln Gly Gln Gln Gly Gln Ile
340 345 350

Pro Ala Ser Gln Gln Gln Pro Gly Gln Gly Gln Gln Gly His Tyr Pro
355 360 365

Ala Ser Leu Gln Gln Pro Gly Gln Gln Gly His Tyr Pro Thr Ser Leu
370 375 380

Gln Gln Leu Gly Gln Gln Gln Ile Gly Gln Pro Gly Gln Lys Gln
385 390 395 400

Gln Pro Gly Gln Gln Gln Thr Gly Gln Gly Gln Gln Pro Glu Gln
405 410 415

Glu Gln Gln Pro Gly Gln Gln Gln Gly Tyr Tyr Pro Thr Ser Leu
420 425 430

Gln Gln Pro Gly Gln Gln Gln Gln Gly Gln Gln Gln Gly Tyr
435 440 445

Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Gly His Tyr
450 455 460

Pro Ala Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln
465 470 475 480

Arg Gln Gln Pro Gly Gln Gln His Pro Glu Gln Gly Gln Gln Pro
485 490 495

Gly Gln Gln Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly
500 505 510

Gln Gln Gln Leu Gly Gln Gln Gln Gly Tyr Tyr Pro Thr Ser
515 520 525

Pro Gln Gln Pro Gly Gln Gln Gln Pro Gly Gln Gln Gln Gly
530 535 540

His Cys Pro Met Ser Pro Gln Gln Thr Gly Gln Ala Gln Gln Leu Gly
545 550 555 560

Gln Gly Gln Gln Ile Gly Gln Val Gln Gln Pro Gly Gln Gln Gln
565 570 575

Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln Ser

580

585

590

Gly Gln Gly Gln Gln Ser Gly Gln Gly His Gln Pro Gly Gln Gly Gln
595 600 605

Gln Ser Gly Gln Glu Lys Gln Gly Tyr Asp Ser Pro Tyr His Val Ser
610 615 620

Ala Glu Gln Gln Ala Ala Ser Pro Met Val Ala Lys Ala Gln Gln Pro
625 630 635 640

Ala Thr Gln Leu Pro Thr Val Cys Arg Met Glu Gly Gly Asp Ala Leu
645 650 655

Ser Ala Ser Gln
660

<210> 7

<211> 648

<212> PRT

<213> Wheat

<223> Dy10

<400> 7

Met Ala Lys Arg Leu Val Leu Phe Ala Ala Val Val Ile Ala Leu Val
1 5 10 15

Ala Leu Thr Thr Ala Glu Gly Glu Ala Ser Arg Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Ser Ser Leu Glu Ala Cys Arg Gln Val Val Asp
35 40 45

Gln Gln Leu Ala Gly Arg Leu Pro Trp Ser Thr Gly Leu Gln Met Arg
50 55 60

Cys Cys Gln Gln Leu Arg Asp Val Ser Ala Lys Cys Arg Ser Val Ala
65 70 75 80

Val Ser Gln Val Ala Arg Gln Tyr Glu Gln Thr Val Val Pro Pro Lys
85 90 95

Gly Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Leu Gln Gln Leu Gln
100 105 110

Gln Gly Ile Phe Trp Gly Thr Ser Ser Gln Thr Val Gln Gly Tyr Tyr
115 120 125

Pro Gly Val Thr Ser Pro Arg Gln Gly Ser Tyr Tyr Pro Gly Gln Ala
130 135 140

Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Lys Trp Gln Glu
145 150 155 160

Pro Gly Gln Gly Gln Gln Trp Tyr Tyr Pro Thr Ser Leu Gln Gln Pro
165 170 175

Gly Gln Gly Gln Gln Ile Gly Lys Gly Gln Gln Gly Tyr Tyr Pro Thr
180 185 190

Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser
195 200 205

Leu Gln His Thr Gly Gln Arg Gln Gln Pro Val Gln Gly Gln Gln Pro
210 215 220

Glu Gln Gly Gln Gln Pro Gly Gln Trp Gln Gln Gly Tyr Tyr Pro Thr
225 230 235 240

Ser Pro Gln Gln Leu Gly Gln Gly Gln Pro Arg Gln Trp Gln Gln
245 250 255

Ser Gly Gln Gly Gln Gln Gly His Tyr Pro Thr Ser Leu Gln Gln Pro
260 265 270

Gly Gln Gly Gln Gln Gly His Tyr Leu Ala Ser Gln Gln Gln Pro Gly
275 280 285

Gln Gly Gln Gln Gly His Tyr Pro Ala Ser Gln Gln Gln Pro Gly Gln
290 295 300

Gly Gln Gln Gly His Tyr Pro Ala Ser Gln Gln Gln Pro Gly Gln Gly
305 310 315 320

Gln Gln Gly His Tyr Pro Ala Ser Gln Gln Glu Pro Gly Gln Gln
325 330 335

Gln Gly Gln Ile Pro Ala Ser Gln Gln Gln Pro Gly Gln Gln Gln
340 345 350

Gly His Tyr Pro Ala Ser Leu Gln Gln Pro Gly Gln Gln Gln Gly
355 360 365

His Tyr Pro Thr Ser Leu Gln Gln Leu Gly Gln Gln Gln Gln Thr Gly
370 375 380

Gln Pro Gly Gln Lys Gln Gln Pro Gly Gln Gly Gln Gln Thr Gly Gln
385 390 395 400

Gly Gln Gln Pro Glu Gln Glu Gln Gln Pro Gly Gln Gln Gln Gly
405 410 415

Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gln Gln Gln Gly
420 425 430

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln
435 440 445

Gly Gln Gln Gly His Tyr Pro Ala Ser Leu Gln Gln Pro Gly Gln Gly
450 455 460

Gln Pro Gly Gln Arg Gln Gln Pro Gly Gln Gly Gln His Pro Glu Gln
465 470 475 480

Gly Lys Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro
485 490 495

Gln Gln Pro Gly Gln Gly Gln Gln Leu Gly Gln Gly Gln Gln Gly Tyr
500 505 510

Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln
515 520 525

Gly Gln Gln Gly His Cys Pro Thr Ser Pro Gln Gln Ser Gly Gln Ala
530 535 540

Gln Gln Pro Gly Gln Gly Gln Gln Ile Gly Gln Val Gln Gln Pro Gly
545 550 555 560

Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Val Gln Gln Pro Gly Gln
565 570 575

Gly Gln Gln Ser Gly Gln Gly Gln Ser Gly Gln Gly His Gln Pro
580 585 590

Gly Gln Gln Gln Ser Gly Gln Glu Gln Gln Gly Tyr Asp Ser Pro
595 600 605

Tyr His Val Ser Ala Glu Gln Gln Ala Ala Ser Pro Met Val Ala Lys
610 615 620

Ala Gln Gln Pro Ala Thr Gln Leu Pro Thr Val Cys Arg Met Glu Gly
625 630 635 640

Gly Asp Ala Leu Ser Ala Ser Gln
645

<210> 8
<211> 705
<212> PRT
<213> Wheat

<223> By9

<400> 8

Met Ala Lys Arg Leu Val Leu Phe Ala Thr Val Val Ile Thr Leu Val
1 5 10 15

Ala Leu Thr Ala Ala Glu Gly Glu Ala Ser Arg Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Ser Ser Leu Glu Ala Cys Arg Gln Val Val Asp
35 40 45

Gln Gln Leu Ala Gly Arg Leu Pro Trp Ser Thr Gly Leu Gln Met Arg
50 55 60

Cys Cys Gln Gln Leu Arg Asp Val Ser Ala Lys Cys Arg Pro Val Ala
65 70 75 80

Val Ser Gln Val Val Arg Gln Tyr Glu Gln Thr Val Val Pro Pro Lys
85 90 95

Gly Gly Ser Phe Tyr Pro Gly Glu Thr Thr Pro Leu Gln Gln Leu Gln
100 105 110

Gln Val Ile Phe Trp Gly Thr Ser Ser Gln Thr Val Gln Gly Tyr Tyr
115 120 125

Pro Ser Val Ser Ser Pro Gln Gln Gly Pro Tyr Tyr Pro Gly Gln Ala
130 135 140

Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Lys Trp Gln Glu
145 150 155 160

Leu Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu His Gln Ser
165 170 175

Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Ser Ser Leu Gln Gln Pro Gly
180 185 190

Gln Gly Gln Gln Ile Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser
195 200 205

Leu Gln Gln Pro Gly Gln Gly Gln Gln Ile Gly Gln Gly Gln Gln Gly
210 215 220

Tyr Tyr Pro Thr Ser Pro Gln His Pro Gly Gln Arg Gln Gln Pro Gly
225 230 235 240

Gln Gly Gln Gln Ile Gly Gln Gly Gln Gln Leu Gly Gln Gly Arg Gln
245 250 255

Ile Gly Gln Gly Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro
260 265 270

Thr Ser Pro Gln Gln Leu Gly Gln Gly Gln Gln Pro Gly Gln Trp Gln
275 280 285

Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Gln Gln Gln
290 295 300

Pro Gly Gln Gly Gln Gln Gly Gln Tyr Pro Ala Ser Gln Gln Gln Pro
305 310 315 320

Gly Gln Gly Gln Gln Gly Gln Tyr Pro Ala Ser Gln Gln Gln Pro Gly
325 330 335

Gln Gly Gln Gln Gly Gln Tyr Pro Ala Ser Gln Gln Gln Pro Gly Gln
340 345 350

Gly Gln Gln Gly His Tyr Leu Ala Ser Gln Gln Pro Gly Gln Gly
355 360 365

Gln Gln Arg His Tyr Pro Ala Ser Leu Gln Gln Pro Gly Gln Gly Gln
370 375 380

Gln Gly His Tyr Thr Ala Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln
385 390 395 400

Gly His Tyr Pro Ala Ser Leu Gln Gln Val Gly Gln Gly Gln Ile
405 410 415

Gly Gln Leu Gly Gln Arg Gln Gln Pro Gly Gln Gly Gln Gln Thr Arg
420 425 430

Gln Gly Gln Gln Leu Glu Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln
435 440 445

Thr Arg Gln Gly Gln Gln Leu Glu Gln Gly Gln Gln Pro Gly Gln Gly
450 455 460

Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gly Gln
465 470 475 480

Gln Pro Gly Gln Ser Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr
485 490 495

Ser Ser Ser Leu Gln Gln Pro Gly Gln Gly Leu Gln Gly His Tyr Pro
500 505 510

Ala Ser Leu Gln Gln Pro Gly Gln Gly His Pro Gly Gln Arg Gln Gln
515 520 525

Pro Gly Gln Gly Gln Gln Pro Glu Gln Gly Gln Gln Pro Gly Gln Gly
530 535 540

Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Pro Gly Gln Gly Lys
545 550 555 560

Gln Leu Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln
565 570 575

Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly His Cys Pro
580 585 590

Thr Ser Pro Gln Gln Thr Gly Gln Ala Gln Gln Pro Gly Gln Gly Gln
595 600 605

Gln Ile Gly Gln Val Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr
610 615 620

Pro Ile Ser Leu Gln Gln Ser Gly Gln Gly Gln Gln Ser Gly Gln Gly
625 630 635 640

Gln Gln Ser Gly Gln Gly His Gln Leu Gly Gln Gly Gln Gln Ser Gly
645 650 655

Gln Glu Gln Gln Gly Tyr Asp Asn Pro Tyr His Val Asn Thr Glu Gln
660 665 670

Gln Thr Ala Ser Pro Lys Val Ala Lys Val Gln Gln Pro Ala Thr Gln
675 680 685

Leu Pro Ile Met Cys Arg Met Glu Gly Gly Asp Ala Leu Ser Ala Ser
690 695 700

Gln
705

<210> 9
<211> 602
<212> PRT
<213> Wheat

<223> glu1A

<400> 9

Met Ala Lys Arg Leu Val Leu Phe Ala Thr Val Val Ile Gly Leu Val
1 5 10 15

Ser Leu Thr Val Ala Glu Gly Glu Ala Ser Lys Gln Leu Gln Cys Glu
20 25 30

Arg Glu Leu Gln Glu Ser Ser Leu Glu Ala Cys Arg Leu Val Val Asp
35 40 45

Gln Gln Leu Ala Ser Arg Leu Pro Trp Ser Thr Gly Leu Gln Met Arg
50 55 60

Cys Cys Gln Gln Leu Arg Asp Ile Ser Ala Lys Cys Arg Pro Val Ala
65 70 75 80

Leu Ser Gln Val Ala Arg Gln Tyr Gly Gln Thr Ala Val Pro Pro Lys
85 90 95

Gly Gly Pro Phe Tyr His Arg Glu Thr Thr Pro Leu Gln Gln Leu Gln
100 105 110

Gln Gly Ile Phe Gly Gly Thr Ser Ser Gln Thr Val Gln Gly Tyr Tyr
115 120 125

Pro Ser Val Ile Ser Pro Gln Gln Gly Ser Tyr Tyr Pro Gly Gln Ala
130 135 140

Ser Pro Gln Gln Pro Gly Lys Trp Gln Glu Leu Gly Gln Gly Gln Gln
145 150 155 160

Trp Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Gly
165 170 175

Tyr Tyr Arg Thr Ser Leu Gln Gln Pro Gly Gln Arg Gln Gln Gly Tyr
180 185 190

Tyr Arg Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln Gln Ile Gly Gln
195 200 205

Trp Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln His Pro Gly Gln Gly
210 215 220

Gln Gln Pro Gly Gln Val Gln Lys Ile Gly Gln Gly Gln Gln Pro Glu
225 230 235 240

Lys Gly Gln Gln Leu Gly Gln Glu Gln Gln Ile Gly Gln Gly Gln Gln
245 250 255

Pro Glu Gln Gly Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly Gln Gly
260 265 270

Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro Gly Gln Gly Gln
275 280 285

Gln Pro Gly Gln Trp Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr
290 295 300

Pro Thr Ser Leu Gln Gln Pro Val Gln Gly Gln Gln Gly His Tyr Pro
305 310 315 320

Ala Ser Gln His Gln Pro Gly Gln Gly Gln Gln Gly His Gln Pro Ala
325 330 335

Ser Leu Gln Leu Ser Gly Gln Gly Gln Gln Gly His His Pro Ala Ser
340 345 350

Leu Gln Gln Pro Gly Gln Gly Lys Gln Thr Gly Gln Arg Glu Gln Arg
355 360 365

Gln Gln Pro Gly Gln Gly Gln Gln Thr Gly Gln Gly Gln Gln Pro Glu
370 375 380

Gln Glu Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Tyr
385 390 395 400

Leu Gln Gln Pro Gly Gln Gly Gln Gln Pro Glu Gln Trp Gln Gln Pro
405 410 415

Gly Gln Gly Gln Gln Gly His Tyr Pro Ala Ser Leu Gln Gln Ser Gly
420 425 430

Gln Gly Gln Gln Gly His Tyr Pro Ala Ser Leu Gln Gln Leu Gly Gln
435 440 445

Gly Gln Pro Gly Gln Thr Gln Gln Pro Gly Gln Gly Gln Gln Pro Glu
450 455 460

Gln Glu Gln Gln Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser
465 470 475 480

Pro Gln Gln Pro Gly Gln Gly Gln Gln His Phe Pro Thr Ser Gly
485 490 495

Gln Ala Gln Gln Pro Gly Gln Gly Gln Gln Ile Gly Gln Ala Gln Gln
500 505 510

Leu Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Pro
515 520 525

Gly Gln Glu Gln Gln Ser Gly Gln Gly Gln Gln Leu Gly Gln Gly His
530 535 540

Gln Pro Gly Gln Gly Gln Gln Ser Gly Gln Glu Gln Gln Gly Tyr Asp
545 550 555 560

Ser Pro Tyr His Val Ser Val Glu Gln Gln Ala Ala Ser Pro Lys Val
565 570 575

Ala Lys Ala His His Pro Val Ala Gln Leu Pro Thr Met Cys Gln Met
580 585 590

Glu Gly Gly Asp Ala Leu Ser Ala Ser Gln
595 600

<210> 10
<211> 621
<212> PRT
<213> Artificial sequence

<220>
<223> Consensus sequence derived from sequences of Table 1

<400> 10

Met Ala Lys Arg Leu Val Leu Phe Ala Ala Val Val Val Ala Leu Val
1 5 10 15

Ala Leu Thr Ala Glu Gly Glu Ala Ser Gln Leu Gln Cys Glu Arg Glu
20 25 30

Leu Gln Glu Ser Leu Ala Cys Arg Gln Val Val Asp Gln Gln Leu Arg
35 40 45

Asp Val Ser Pro Cys Arg Pro Val Val Ser Pro Val Ala Arg Gln Tyr
50 55 60

Glu Gln Gln Val Val Pro Pro Lys Gly Gly Ser Phe Tyr Pro Gly Glu
65 70 75 80

Thr Thr Pro Gln Gln Leu Gln Gln Ile Phe Trp Gly Ile Pro Ala Leu
85 90 95

Leu Arg Tyr Tyr Pro Ser Val Thr Ser Pro Gln Gln Gly Ser Tyr Tyr
100 105 110

Pro Gly Gln Ala Ser Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gly
115 120 125

Gln Gly Gln Gln Gly Tyr Tyr Thr Ser Pro Gln Gln Pro Gly Gln Gln
130 135 140

Gln Gly Gln Gly Gln Gly Tyr Tyr Pro Thr Ser Gln Gln Pro Gly Gln
145 150 155 160

Gln Gln Gln Gly Gln Gln Gly Gln Pro Gly Tyr Tyr Pro Thr
165 170 175

Ser Gln Pro Gly Gln Gln Pro Gln Gly Gln Gln Gln Gln Gly
180 185 190

Gln Gln Gly Gln Gln Gln Gly Gln Gln Gln Gln Gln Gln Pro
195 200 205

Gly Gln Gln Gly Gln Gln Gln Gly Gln Gln Pro Gln Gln Ser
210 215 220

Gly Gln Gly Gln Gly Tyr Tyr Pro Thr Ser Gln Gln Pro Gly Gln Gly
225 230 235 240

Gln Gln Gln Gln Gln Gln Gly Gln Gln Pro Gly Gln Gln Gln
245 250 255

Gly Gln Gln Pro Gly Gln Gln Gln Pro Gly Gln Gln Gln Gln Gly
260 265 270

Tyr Tyr Pro Thr Ser Gln Gln Pro Gly Gln Gln Gln Gly Tyr Pro
275 280 285

Ser Gln Gln Pro Gly Gln Gln Pro Gln Gln Gly Gln Gln Gln Pro Gln
290 295 300

Gly Gln Gln Pro Gly Gln Gln Gly Gln Pro Gly Tyr Tyr Pro Thr Ser Pro
305 310 315 320

Gln Gln Ser Gly Gln Gly Gln Gly Tyr Tyr Thr Ser Pro Gln Gln Ser
325 330 335

Gly Gln Gln Gln Pro Gln Gln Gln Gly Gln Gln Gln Gln Pro Gly
340 345 350

Gln Gln Gln Pro Gly Gln Gln Gln Gly Gln Gln Pro Gly Gln Gly
355 360 365

Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly Gln Gln Gln Pro
370 375 380

Gly Gln Trp Gln Gln Pro Gly Gln Gln Pro Gly Tyr Tyr Pro Thr
385 390 395 400

Ser Pro Gln Gln Pro Gly Gln Gln Gln Gly Tyr Tyr Pro Thr Ser
405 410 415

Pro Gln Gln Pro Gly Gln Gly Gln Gln Pro Gln Gln Gln Pro Gln Gly
420 425 430

Gln Gln Gln Gln Gln Gln Gln Pro Gln Gly Gln Gln Pro Gly Gln
435 440 445

Gly Gln Gln Pro Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro
450 455 460

Gln Gln Ser Gly Gln Gly Gln Gln Gly Gln Gly Tyr Tyr Thr Gly Gln
465 470 475 480

Gln Gly Tyr Tyr Pro Thr Ser Gln Gln Pro Gly Gln Gln Gln Pro
485 490 495

Gly Gln Gln Gln Gln Gly Gln Tyr Tyr Pro Ser Pro Ser Gly Gln Gly
500 505 510

Gln Pro Gly Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Gly Gln
515 520 525

Gly Gln Gln Pro Gly Gln Gln Gly Gln Trp Leu Gln Pro Gly Gln Gly
530 535 540

Gln Gln Gly Tyr Tyr Pro Thr Ser Leu Gln Gln Gly Gln Gln Gln
545 550 555 560

Ser Gly Gln Gly Gln Gln Gly Tyr Tyr Pro Gln Gln Ser Gly Gln Gln
565 570 575

Gln Gly Tyr Asp Ser Pro Tyr His Val Ser Ala Glu Gln Ala Ala Ser
580 585 590

Leu Lys Val Ala Lys Ala Gln Gln Leu Ala Ala Gln Leu Pro Ala Met
595 600 605

Cys Arg Leu Glu Gly Gly Asp Ala Leu Ser Ala Ser Gln
610 615 620

<210> 11

<211> 18

<212> PRT

<213> wheat

<223> preserved C-terminal motif

<400> 11

Leu Lys Val Ala Lys Ala Gln Gln Leu Ala Ala Gln Leu Pro Ala Met
1 5 10 15

Cys Arg

<210> 12

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<211> 2073
<212> DNA
<213> Guinea pig

<220>
<221> CDS
<222> (1)..(2073)
<223> transglutaminase enzyme

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aat ggc cgc gac cac cgc acg gcc gac ctg tgc cgg gag agg ctg gtg      96
ttg cgg cgg ggc cag ccc ttc tgg ctg acg ctg cac ttt gag ggc cgt     144
ggc tac gag gct ggt gtg gac act ctc acc ttc aac gct gtg acc ggc     192
cca gat ccc agt gag gag gcc ggg act atg gcc cgg ttc tca ctg tcc     240
agt gct gtc gag ggg ggc acc tgg tca gcc tca gca gtg gac cag cag     288
gac agc act gtc tcg ctg ctg ctc agc acc cca gct gat gcc ccc att     336
ggc ctg tat cgc ctc agc ctg gag gcc tcc act ggt tac cag ggc tcc     384
agc ttc gta ctg ggc cac ttc atc ctg ctc tac aat cct cgg tgc cca     432
gcg gat gct gtc tat atg gac tca gac caa gag cgg cag gag tat gtg     480
ctc acc caa cag ggc ttc atc tac cag ggc tcg gcc aag ttc atc aat     528
ggc ata cct tgg aac ttc ggg cag ttt gaa gat ggg atc ctg gat att     576
tgc ctg atg ctc ttg gac acc aac ccc aag ttc ctg aag aat gct ggc     624
caa gac tgc tcg cgc cgc agc aga cct gtc tac gtg ggc cgg gtg gtg     672
agc gcc atg gtc aac tgc aat gac gat cag ggc gtg ctt cag gga cgc     720
tgg gac aac aac tac agt gat ggt gtc agc ccc atg tcc tgg atc ggc     768
agc gtg gac atc ctg cgg cgc tgg aaa gac tat ggg tgc cag cgc gtc     816
aag tac ggc cag tgc tgg gtc ttc gct gct gtg gcc tgc aca gtg ctg     864
cgg tgc ctt ggc atc ccc acc cga gtc gtg acc aac ttt aac tca gcc     912
cac gac cag aac agc aac ctg ctc atc gag tac ttc cga aac gag tct     960
ggg gag atc gag ggg aac aag agc gag atg atc tgg aac ttc cac tgc    1008
tgg gtg gag tcg tgg atg acc agg ccg gac ctg gag cct ggg tac gag    1056
ggg tgg cag gcc ctg gac ccc aca ccc cag gag aag agt gaa ggg aca    1104
tac tgc tgt ggc cca gtt ccg gtt cga gcc atc aag gag ggc cac ctg    1152

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aac gtc aag tat gat gca cct ttc gtg ttt gct gag gtc aat gct gac	1200
gtg gtg aac tgg atc cg ^g cag aaa gat ggg tcc ctg cgc aag tcc atc	1248
aac cat ttg gtt gtg ggg ctg aag atc agt act aag agt gtg ggc cgc	1296
gat gag cga gag gac atc acc cac acc tac aag tac cca gag gga tct	1344
gaa gag gag cg ^g gaa gct ttt gtt agg gcc aac cac cta aat aaa ctg	1392
gcc aca aag gaa gag gct cag gag gaa acg gga gtg gcc atg cg ^g atc	1440
cgt gtg ggc cag aac atg act atg ggc agt gac ttt gac atc ttt gcc	1488
tac atc acc aat ggc act gct gag agc cac gaa tgc caa ctc ctg ctc	1536
tgt gca cgc atc gtc agc tac aat gga gtc ctg ggg ccc gtg tgc agc	1584
acc aac gac ctg ctc aac ctg acc ctg gat ccc ttc tcg gag aac agc	1632
atc ccc ctg cac atc ctc tat gag aag tac ggt gac tac ctg act gag	1680
tcc aac ctc atc aag gtg cga ggc ctc ctt atc gag cca gca gcc aac	1728
agc tat gta ttg gcc gag agg gac att tac ctg gag aat cca gaa atc	1776
aag atc cg ^g gtc ttg ggg gag ccc aag cag aac cgc aag ctg att gct	1824
gag gtg tct ctg aag aat ccg ctc cct gtg ccg ctg ctg ggt tgt atc	1872
ttc acc gtg gaa gga gct ggc ctg acc aag gac cag aag tcg gtg gag	1920
gtc cca gac ccc gtg gaa gca ggg gag caa gc ^g aag gta cg ^g gtg gac	1968
ctg ctg ccg acg gag gtg ggc ctc cac aag ctg gtg gtg aac ttc gag	2016
tgc gac aag ctg aag gcc gtg aag ggc tat cgg aac gtc atc atc ggc	2064
ccc gcc taa	2073

<210> 13
 <211> 736
 <212> DNA
 <213> Rice
 <220>
 <223> regulatory region for seed-specific expression

<400> 13	
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ggtgagttat tgtaaagt ^t tc tacaaagcta attaaaaagt tattgcatta acttatttca	180
tattacaaac aagagtgtca atggaacaat gaaaaccata tgacatacta taatttgtt	240

tttattattg aaatttatata attcaaagag aataaatcca catagccgta aagttctaca 300
tgtggtgcat tacaaaata tatatagctt acaaaacatg acaagcttag tttgaaaaat 360
tgcaatcctt atcacattga cacataaagt gagtgatgag tcataatatt attttcttg 420
ctaccatca tgtatatatg atagccacaa agttacttg atgatgat caaagaacat 480
ttttaggtgc acctaacaga atatccaaat aatatgactc acttagatca taatagagca 540
tcaagtaaaa ctaacactct aaagcaaccg atgggaaagc atctataaat agacaagcac 600
aatgaaaatc ctcatcatcc ttcaccacaa ttcaaataatt atagttgaag catagttagta 660
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cccgggcaca gataaatgtt gtgattca

28

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28

<210> 24
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<400> 24
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27

<210> 25
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26

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accttatcca tgcaagctac cttccac 27

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<210> 29
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33

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<223> PLT571 forward primer for amplification of wheat gene Glula

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33

<210> 34
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<220>
<223> PLT237 forward primer for amplification of guinea pig gene transglutaminase

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30

<210> 35
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<212> DNA
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<223> PLT238 reverse primer for amplification of guinea pig gene transglutaminase

<400> 35
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28

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<400> 36

Pro Phe Pro Gln Pro Gln Leu Pro Tyr
1 5

<210> 37
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<400> 37

Pro Gln Pro Gln Leu Pro Tyr Pro Gln
1 5

<210> 38
<211> 9
<212> PRT
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<220>
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<400> 38

Pro Tyr Pro Gln Pro Gln Leu Pro Tyr
1 5

<210> 39
<211> 13
<212> PRT
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<220>
<223> Gln in position 10 is the the amino acid to be mutated

<400> 39

Leu Gln Leu Gln Pro Phe Pro Gln Pro Gln Leu Pro Tyr
1 5 10

<210> 40

<211> 13

<212> PRT

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<220>

<223> Tyr in position 5 and Ser in position 8 are the amino acids to be mutated

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Gln Gln Gly Tyr Tyr Pro Thr Ser Pro Gln Gln Ser Gly
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<210> 41

<211> 8

<212> PRT

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<220>

<223> as for Seq ID NO:40

<400> 41

Gln Gln Gly Tyr Tyr Pro Thr Ser
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<210> 42

<211> 8

<212> PRT

<213> Artificial sequence

<220>

<223> Gln in positions 4,5 and 7 are the amino acids to be mutated

<400> 42

Pro Phe Ser Gln Gln Gln Gln
1 5

<210> 43

<211> 12

<212> PRT

<213> Artificial sequence

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<223> Gln in positions 4 and 6 are the amino acids to be mutated

<400> 43

Gln Ser Glu Gln Ser Gln Gln Pro Phe Gln Pro Gln
1 5 10

<210> 44
<211> 9
<212> PRT
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<223> Xaa is any residue

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<223> Gln in position 4 is the amino acid to be mutated

<400> .44

Gln Xaa Pro Gln Gln Pro Gln Gln Phe
1 5